

CLAIMS**WHAT IS CLAIMED IS:**

1. A backbone correction apparatus, comprising:

a base plate;

5 a rolling body support unit rollably connected to the surface of the base plate to accommodate a user lying with his back on the rolling body support unit, wherein the rolling body support unit comprises:

an upper body unit having a plurality of head and
backbone supporting members connected to each other by
10 an elastic member and having a plurality of wheels contacting the base plate, the upper body unit capable of receiving the head and the back of the user; and

a lower body unit capable of receiving the hip and
the legs and having a plurality of wheels contacting the
15 base plate,

wherein each part in the upper body unit and
the lower body unit is movable in at least one of the
directions including:

rollably moving in a top and bottom
20 direction with respect to the head to toe
direction of the laid user;
rollably moving in a lateral direction with
respect to the laid user;

rollably moving in a slanted direction
with respect to the laid user;
rollably moving in an arcuate direction
with respect to the laid user; and
5 moving in the up and down directions
with respect to the laid user.

2. The backbone correction apparatus of Claim 1, further comprising a
support frame rigidly supporting the base plate, wherein the upper body unit is
connected to the support frame by an elastic member and further wherein the
10 length of the elastic member is adjustable.

3. The backbone correction apparatus of Claim 1 further comprising:
a first motor;
a first mechanical system connected to the first motor and a selected
member of the rolling body support unit to translate the rotational motion of
15 the first motor into the lateral movements of the selected member of the
rolling body support unit on the base plate;

a second motor;
a second mechanical system connected to the second motor and
another selected member of the rolling body support unit to translate the
20 rotational motion of the first motor into the up and down movements of the
selected member of the rolling body support unit on the base plate;

a electronic control system allowing the user to control the first and
second motors so as to control the lateral and up and down movements.

4. The backbone correction apparatus of Claim 1,

wherein the upper body unit comprises:

a head and cervical vertebrae support member having a first wheel contacting the base plate and capable of receiving the head of the user;

a cervical and thoracic vertebrae support member having a second wheel contacting the base plate and capable of receiving the neck of the user;

a thoracic vertebrae support member having a third wheel contacting the base plate and capable of receiving the part of the back corresponding to the thoracic vertebrae bones,

a lumbar vertebrae support member having a fourth wheel contacting the base plate and capable of receiving the part of the back corresponding to the thoracic vertebrae bones; and

wherein the lower body unit comprises:

a first lower unit having a fifth wheel contacting the base plate and capable of receiving the hip of the user; and

a second lower unit having a sixth wheel contacting the base plate and capable of receiving the legs of the user.

5. The backbone correction apparatus of Claim 4, wherein each of the head and cervical vertebrae support member, the cervical and thoracic vertebrae support member, the thoracic vertebrae support member, the lumbar vertebrae support member has a plurality of protruding parts that stimulates

the contact body part of the user.

6. The backbone correction apparatus of Claim 4, further including at least one of:

an auxiliary head and cervical vertebrae support member
5 having a first wheel contacting the base plate and capable of receiving the head of the user;

an auxiliary cervical and thoracic vertebrae support member
having a second wheel contacting the base plate and capable of receiving the neck of the user;

10 an auxiliary thoracic vertebrae support member having a third wheel contacting the base plate and capable of receiving the part of the back corresponding to the thoracic vertebrae bones;

an auxiliary lumbar vertebrae support member having a fourth wheel contacting the base plate and capable of receiving
15 the part of the back corresponding to the thoracic vertebrae bones; and

a lower body length adjusting unit that is adjustable to accommodate of the lower body length of the laid user,

wherein each of the auxiliary members is connectable
20 to another auxiliary member or to the non-auxiliary member by an auxiliary elastic member.

7. The backbone correction apparatus of Claim 6, wherein each of the non-auxiliary and auxiliary member of the upper body unit comprises a shock

absorbing unit on the side that is connected to the non-auxiliary or auxiliary elastic member.

8. The backbone correction apparatus of Claim 6, wherein each of the non-auxiliary and auxiliary member of the upper body unit comprises heating
- 5 elements to heat the contacting boy of the user.
9. The backbone correction apparatus of Claim 4, wherein the first lower unit comprises a retractable hip tightening belt having a locking clip and a clip receiver and a pair of adjustable hip positioning guides to securely receive the hip of the laid user.
- 10 10. The backbone correction apparatus of Claim 9, wherein the hip positioning guides are moved by a motor and controlled by the user.
11. The backbone correction apparatus of Claim 4, wherein the second lower unit comprises an adjustable ankle positioning unit to securely receive the ankles of the laid user.
- 15 12. The backbone correction apparatus of Claim 11, wherein the ankle positioning unit are moved by a motor and controlled by the user.